

CLAIMS

What is claimed is:

1. An apparatus for controlling an application of a coating to a substrate, comprising:
  - a field generator for providing at least one of an electrical field and a magnetic field; and
  - a controller for controlling the at least one field to control an application of the coating to the substrate;
  - wherein the coating comprises particles having at least one of desired electric and magnetic properties, and the particles are dispersed in the coating to provide a desired physical coloration.
2. The apparatus of claim 1, wherein:
  - the controller controls the application of the coating to the substrate by controlling a position of the at least one field.
3. The apparatus of claim 1, wherein:
  - the controller controls the application of the coating to the substrate by controlling a strength of the at least one field.
4. The apparatus of claim 1, wherein:
  - the controller controls the application of the coating to the substrate such that the coating is applied to the substrate at specified locations thereon.
5. An apparatus for forming a pattern in a coating that is applied to a substrate, comprising:
  - a field generator for providing at least one of an electrical field, magnetic field, and photo field; and
  - a controller for controlling an application of the at least one field to the coating to form the pattern therein;

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wherein the coating comprises particles having at least one of desired electric, magnetic and photo properties, and the particles are dispersed in the coating to provide a desired physical coloration.

6. The apparatus of claim 5, wherein:

the at least one field forms the pattern in the coating by changing the physical coloration of portions of the coating to which the at least one field is applied.

7. An apparatus for controlling the coloration of a coating applied to a substrate as a label, comprising:

a field generator for applying at least one of an electric field, magnetic field and photo field to the coating to cause a desired change in a physical coloration of the label;

wherein the coating comprises particles having at least one of desired electric, magnetic, and photo properties, and said particles are dispersed in the coating to provide a desired physical coloration; and

wherein the label is adapted to be read by a scanner.

8. The apparatus of claim 7, wherein:

the label provides at least one of a price and an identifier associated with a product.

9. The apparatus of claim 7, wherein:

the coating is applied directly to an object for which the label provides information.

10. The apparatus of claim 7, wherein:

the coating is applied to a substrate, which is applied to an object for which the label provides information.

11. The apparatus of claim 7, wherein:

the label provides a bar code which is adapted to be read by the scanner.

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12. The apparatus of claim 7, wherein:  
the field generator is provided at a point of sale location to enable sale of an object associated with the label.

13. The apparatus of claim 7, wherein:  
the at least one field applied to the coating causes a change in the physical coloration of the coating such that the coating essentially appears to be erased.

14. The apparatus of claim 7, wherein:  
the at least one field applied to the coating causes a change in the physical coloration of the coating such that the coating essentially blends in with a background color.

15. The apparatus of claim 7, wherein:  
the at least one field applied to the coating causes a change in the physical coloration of the pattern within or on the coating or substrate such that the pattern is at least one of scrambled, erased or essentially blends in with a background color.

16. A method for controlling an application of a coating to a substrate, comprising:

providing at least one of an electrical field and a magnetic field; and

controlling the at least one field to control an application of the coating to the substrate;

wherein the coating comprises particles having at least one of desired electric and magnetic properties, and the particles are dispersed in the coating to provide a desired physical coloration.

17. A method for forming a pattern in a coating that is applied to a substrate, comprising:

providing at least one of an electrical field, magnetic field, and photo field;

and

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controlling an application of the at least one field to the coating to form the pattern therein;

wherein the coating comprises particles having at least one of desired electric, magnetic and photo properties, and the particles are dispersed in the coating to provide a desired physical coloration.

18. A method for controlling the coloration of a coating applied to a substrate as a label, comprising:

applying at least one of an electric field, magnetic field and photo field to the coating to cause a desired change in a physical coloration of the label;

wherein the coating comprises particles having at least one of desired electric, magnetic, and photo properties, and said particles are dispersed in the coating to provide a desired physical coloration; and

wherein the label is adapted to be read by a scanner.

19. A coating for application to a substrate, comprising:  
fine particles that comprise particle scattering colorants, the particles having electric properties, magnetic properties, photo properties or a combination thereof;  
and

a matrix component;

wherein application of an electric field, a magnetic field, a photo field or a combination thereof to the fine particles cause agglomeration of the fine particles in the matrix and a concomitant at least one color shift, color reduction, color loss, pattern scrambling, or pattern loss.

20. A coating for application to a substrate, comprising:

fine particles that comprise onion-skin method particles wherein at least one layer comprises a particle scattering colorant and at least one layer comprises at least one material having electric properties, magnetic properties, photo properties or a combination thereof; and

a matrix component;

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wherein application of an electric field, a magnetic field, a photo field or a combination thereof to the fine particles cause agglomeration of the fine particles in the matrix and a concomitant at least one color shift, color reduction, color loss, pattern scrambling, or pattern loss.

21. A coating for application to a substrate, comprising:

fine particles that comprise particle scattering colorants, the particles have electric properties, magnetic properties, photo properties or a combination thereof; and

a matrix component;

wherein application of an electric field, a magnetic field or a photo field to an agglomeration of the fine particles reverses at least one color shift, color reduction, color loss, pattern scrambling, or pattern loss associated with the agglomeration.

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